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All
- 5 1. A radiator comprising:
an object having a low emissivity outer layer; and
a movable covering having a contact mode and a non-
contact mode with the low emissivity outer
layer, thereby enabling a higher amount of heat
to radiate from the object in the contact mode
relative to the non-contact mode.
- 10 2. The radiator of claim 1, wherein the low
emissivity outer layer further comprises a skin and the
object further comprises a craft usable in space.
- 15 3. The radiator of claim 2, wherein the movable
covering further comprises an outer high emissivity layer
and an inner layer comprising a dielectric.
- 20 4. The radiator of claim 3 further comprises a
switchable electric power source having a connection to the
skin and a connection to the outer high emissivity layer,
wherein in a powered mode an electrostatic attraction causes
the contact mode.
- 25 5. The radiator of claim 4 further comprising a
separator functioning to urge the movable covering to the
non-contact mode.
6. The radiator of claim 4, wherein the outer high
emissivity layer further comprises a thin metallic coating
and the dielectric further comprises a film having a high
dielectric constant, a high thermal conductivity and a high
dielectric strength.
- 30 7. The radiator of claim 6, wherein the switchable
electric power source is a DC source.

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8. A radiator comprising:

a craft having a low emissivity outer layer;
a movable covering having a contact mode and a non-
contact mode with the low emissivity outer
layer;

said movable covering further comprising . a
composite film with an inner dielectric base and
an outer high emissivity metallic coating over
the inner dielectric base;

a switched power source having a first pole
connected to the low emissivity outer layer and
a second pole connected to the high emissivity
metallic coating; and

wherein a non-powered state of the outer high
emissivity metallic coating causes the non-
contact mode and a low heat transfer rate away
from the craft, and a powered state of the outer
high emissivity metallic coating causes the
contact mode and a high heat transfer rate away
from the craft.

9. The radiator of claim 8, wherein the movable
covering is flexible.

10. The radiator of claim 9, wherein the craft is
located in space.

11. The radiator of claim 8, wherein the switched
power source is DC.

12. A variable heat transfer surface, said surface
comprising:

a low emissivity outer layer covering at least a
portion of a heat-emitting craft;

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a movable covering having a contact mode and a non-contact mode with the low emissivity outer layer;

said movable covering further comprising a composite film with an inner dielectric base and an outer high emissivity metallic coating over the inner dielectric base;

a power source connected across the low emissivity outer layer and the high emissivity metallic coating;

a switch to supply power "ON" and "OFF" across the low emissivity outer layer and the high emissivity metallic coating; and

wherein the switch in the "OFF" position causes the non-contact mode and a resulting low heat transfer rate away from the surface, and the switch in the "ON" position causes the contact mode and a resulting high heat transfer rate away from the surface.

13. The variable heat transfer surface of claim 12, wherein the low emissivity outer layer further comprises at least a portion of a craft, said craft being usable in space.

14. The variable heat transfer surface of claim 13, wherein the movable covering is flexible.

15. The variable heat transfer surface of claim 12, wherein the movable covering is flexible.

16. The variable heat transfer surface of claim 12, wherein the power source is DC.

17. A radiator comprising:

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a low emissivity outer layer means functioning to
cover at least a portion of a craft;

a temperature control means functioning to control
thermal emissivity from the craft; and

5 said temperature control means further comprising a
movable covering having a contact mode and a
non-contact mode with the low emissivity outer
layer means, thereby enabling a higher amount of
heat to radiate from the craft in the contact
10 mode relative to the non-contact mode.

18. The radiator of claim 17, wherein the movable
covering further comprises a flexible composite film means
further comprising an inner dielectric base means and an
outer high emissivity metallic coating means functioning to
15 cover a low emissivity outer layer means.

19. The radiator of claim 18, wherein the movable
covering further comprises a switched power source having a
first pole connected to the low emissivity outer layer means
and a second pole connected to the high emissivity metallic
20 coating of the temperature control means.

20. The radiator of claim 19 further comprising a DC
power source means functioning to draw together the low
emissivity outer layer means and the temperature control
means via an electrostatic force.

25 21. A radiator comprising:

a low emissivity outer layer means functioning to
cover at least a portion of a craft;

a temperature control means functioning to control
thermal emissivity from the craft;

30 said temperature control means further comprising a
movable covering having a contact mode and a

non-contact mode with the low emissivity outer layer means, thereby enabling a higher amount of heat to radiate from the craft in the contact mode relative to the non-contact mode;

5 wherein the movable covering further comprises a flexible composite film means further comprising a inner dielectric base means and an outer high emissivity metallic coating means functioning to cover a low emissivity outer layer means;

10 wherein the movable covering further comprises a switched power source having a first pole connected to the low emissivity outer layer means and a second pole connected to the high emissivity metallic coating of the temperature control means;

15 wherein the movable covering further comprises a switched power source having a first pole connected to the low emissivity outer layer means and a second pole connected to the high emissivity metallic coating of the temperature control means; and

20 a DC power source means functioning to draw together the low emissivity outer layer means and the temperature control means via an electrostatic force.

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